

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

GW Plastics

Arizona Manufacturing Extension Partnership

GW Plastics Goes Lean and Green

Client Profile:

GW Plastics is recognized as a world leader and innovator in precision injection molding, tooling and contract manufacturing serving market leading companies across the globe. GW has grown steadily focusing on close-tolerance precision molding and assembly serving the automotive, healthcare, consumer/industrial and filtration markets. The company employs 100 people at its facility in Tucson, Arizona.

Situation:

GW Plastics approached the Arizona Manufacturing Extension Partnership (Arizona MEP), a NIST MEP network affiliate, to help identify opportunities for improvements that would reduce waste, increase productivity and customer satisfaction, and reduce impacts on the environment. The project team focused on eliminating wasted energy, raw materials, and non-value added activities; simplifying processes to increase customer responsiveness; and developing employee awareness and cost effective processes to sustain improvement efforts.

Solution:

GW Plastics, the Arizona MEP and New Mexico State University Institute for Energy and the Environment (NMSU/IEE) formed a 'Green Team' to conduct a Clean assessment and participate in the evaluation of the company's resource and energy conservation efforts. The Green Team met with GW Plastics to identify and evaluate environmental and energy aspects of the facility's operation. Included was a thorough review of the facility's inputs and outputs, waste streams, existing recycling and resource management efforts, energy use and all associated costs. On-site assessments with staff included the administrative offices, all manufacturing areas, shipping office, material storage and warehouse, loading dock, machine shop, break room, the roof and waste disposal area. The Arizona MEP followed up with a Value Stream Mapping (VSM) of GW Plastics' order to ship process. The largest opportunity identified by VSM was in the customer service/purchasing/scheduling areas. Currently customer service accesses the customer's portal daily for the outstanding orders. Considerable time is spent by customer service updating the spreadsheet, reconciling what is new or changed. The complexity of the spreadsheet forces GW Plastics to keep a separate spreadsheet for this major customer. All other product orders drop readily into their machine programming database. The Lean Team reviewed all the opportunities for improvement, assigned priorities and owners, and built a Future State Map. The first Kaizen would focus on streamlining the customer order to scheduling steps. From a green perspective the review showed the way GW Plastics can continue the reduction of solid waste stream through the diversion of recyclables. With the use of a calculator spreadsheet, they will be able to effectively track their energy, recycling, waste disposal amounts and associated costs. On the Lean side, determining a way to separate updates and changes to the existing orders would allow customer service to have all their major customers' orders follow the same path as all other products, eliminating the production spreadsheet and allowing their on line database

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to become the scheduling document. With further reduction in startup times on the tools, the batch size could ultimately make it possible for the orders to be sent to the warehouse resulting in a PULL system. The safety stock would be used to fill the order, a signal sent to production to build another batch.

Results:

- * Reduced solid waste by 30 percent.
- * Reduced labor on scheduling by 80 percent.
- * Improved change over time by 20 percent.
- * Reduced schedule changes by 50 percent.

Testimonial:

"The Lean and Green engagement by the EPA and the Arizona MEP was very enlightening. It alerted us to many opportunities and ideas as to how we can reduce or eliminate wastes in our organization. I feel that this activity with the Arizona MEP had the right mix of theory with the right respect for execution. I highly recommend inviting Arizona MEP into your facility if you are committing to Lean deployment."

Michael Mims, General Manager